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November 30, 2018

VIA ELECTRONIC FILING (Public Version) AND
VIA HAND-DELIVERY (Confidential Version)

The Honorable Jocelyn G. Boyd
Chief Clerk/Administrator
Public Service Commission of South Carolina
101 Executive Center Drive, Suite 100
Columbia, South Carolina 29210

Re: Avoided Cost Information File Pursuant to 18 C.F.R. § 292-302(b)
Docket No. 1980-251-E
Docket No. 1998-419-E

Dear Mrs. Boyd:

Pursuant to 18 C.F.R. § 292.302(b) of the Federal Energy Regulatory Commission regulations implementing Section 210 of the Public Utility Regulatory Policies Act of 1978, enclosed for filing please find Duke Energy Carolinas, LLC's and Duke Energy Progress, LLC's (collectively, the "Companies") 2017 avoided cost information.

Due to the commercial sensitivity and proprietary nature of certain information contained in this filing, the Companies respectfully request that the Commission find that pursuant to S.C. Code Ann. § 30-4-40(a), this information is exempt from disclosure under the Freedom of Information Act, S.C. Code Ann. §§ 30-4-10 et seq. and 10 S.C. Code Ann. Regs. § 103-804(S)(1). Such information reflects the Companies' costs to procure additional energy and/or capacity. The wholesale electricity market is extremely competitive, and in order for the Companies to obtain the most cost-effective energy and capacity to meet the needs of their customers, they must protect from public disclosure their projected and actual cost to procure such energy, capacity or both. In addition, if this information was publicly available, potential suppliers would know the price against which they must bid, and rather than bidding the lowest price possible, they would simply bid a price low enough to beat the Companies' projections.

Accordingly, the Companies are submitting to the Commission the confidential version of this filing under seal and respectfully request that the Commission maintain this information as confidential pursuant to Order No. 2005-226, "Order Requiring Designation of Confidential Materials." Enclosed is a redacted version of this filing that protects the

Companies' commercially sensitive and proprietary information being filed under seal. The Companies are hand delivering to the Commission and the Office of Regulatory Staff the confidential, unredacted version of this filing.

Please do not hesitate to contact me with any questions.

Sincerely,



Rebecca J. Dulin

Enclosures

cc: Ms. Nanette Edwards, Esq., Office of Regulatory Staff
Ms. Dawn Hipp, Office of Regulatory Staff
Mr. Jeffery M. Nelson, Esq. Office of Regulatory Staff
Mr. Michael Seaman-Huynh, Office of Regulatory Staff
Ms. C. Lessie Hammonds, Office of Regulatory Staff

ESTIMATED AVOIDED ENERGY COSTS
18 C.F.R. § 292.302(b)(1)

The estimated avoided cost on the electric utility's system, solely with respect to the energy component, for various levels of purchases from qualifying facilities. Such levels of purchases shall be stated in blocks of not more than 100 megawatts for systems with peak demand of 1,000 megawatts or more, and in blocks equivalent to not more than 10 percent of the system peak demand for systems of less than 1,000 megawatts. The avoided costs shall be stated on a cents per kilowatt-hour basis, during daily and seasonal peak and off-peak periods, by year, for the current calendar year and each of the next five years.

RESPONSE:

NON-SUMMER AVERAGE AVOIDED ENERGY COST BY PERIOD (¢/kWh)

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SUMMER AVERAGE AVOIDED ENERGY COST BY PERIOD (¢/kWh)

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Notes:

Energy costs are expressed in nominal dollars.

HOUR DEFINITIONS

| Season | Period | Days | Months | Hours |
|---------------|-----------------|------------------------|--------------------------|--|
| Non-Summer | On-Peak Morning | Mon – Fri ¹ | Oct – Apr | 6:00 am – 10:00 am |
| Non-Summer | On-Peak Evening | Mon – Fri ¹ | Oct – Apr | 5:00 pm – 11:00 pm |
| Non-Summer | Off-Peak | Mon – Fri Sat – Sun | Oct – Apr Oct – Apr | Remaining Hours + Holidays All Hours ² |
| Summer | On-Peak | Mon – Fri ¹ | May - Sept | 12:00 pm – 11:00 pm |
| Summer | Off-Peak | Mon – Fri Sat - Sun | May – Sept May - Sept | Remaining Hours + Holidays All Hours ² |

Notes:

- 1) Excludes holidays considered as off-peak (New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and the day after, and Christmas Day).
- 2) When one of the above holidays falls on a Saturday, the Friday before will be considered off-peak; when the holiday falls on a Sunday, the following Monday will be considered off-peak.

FUTURE RESOURCE ADDITIONS
18 C.F.R. § 292.302(b)(2)

The electric utility's plan for the addition of capacity by amount and type, for purchases of firm energy and capacity, and for capacity retirements for each year during the succeeding 10 years.

RESPONSE:

PROPOSED RESOURCE CAPACITY ADDITIONS

| Year | Winter Capacity (MW) | Description (Date Installed) |
|-------------|---------------------------------|---|
| 2019 | | |
| 2020 | 22 4 | Combined Heat and Power (December 2019) Energy Storage (December 2019) |
| 2021 | 22 16 | Combined Heat and Power (December 2020) Energy Storage (December 2020) |
| 2022 | 20 | Energy Storage (December 2021) |
| 2023 | 20 | Energy Storage (December 2022) |
| 2024 | 20 | Energy Storage (December 2023) |
| 2025 | 402 20 | Lincoln Project (December 2024) Energy Storage (December 2024) |
| 2026 | 20 | Energy Storage (December 2025) |
| 2027 | | |
| 2028 | 460 | Combustion Turbine (December 2027) |

PROPOSED RESOURCE CAPACITY RETIREMENTS

| Year | Winter Capacity (MW) | Description (Date Retired) |
|-------------|---------------------------------|---|
| 2025 | 167 167 270 | Allen 1 (December 2024) Allen 2 (December 2024) Allen 3 (December 2024) |

PROPOSED PURCHASE CAPACITY ADDITIONS

| DEC Base Renewables – Compliance + Non-Compliance Nameplate MW | | | |
|---|--------------|----------------------|--------------|
| | Solar | Biomass/Hydro | Total |
| 2019 | 815 | 119 | 934 |
| 2020 | 1,212 | 140 | 1,352 |
| 2021 | 1,580 | 118 | 1,698 |
| 2022 | 1,938 | 98 | 2,036 |
| 2023 | 2,273 | 83 | 2,356 |
| 2024 | 2,532 | 81 | 2,613 |
| 2025 | 2,773 | 69 | 2,842 |
| 2026 | 2,764 | 68 | 2,832 |
| 2027 | 2,750 | 62 | 2,812 |
| 2028 | 2,736 | 85 | 2,821 |

Notes:

- Data Source: 2018 Base Case used for Avoided Cost standard offer rates filed in SC Docket 1995-1192-E.
- The year is the year in which the capacity impacts the winter peak.
- All retirements are for planning purposes only.
- The date retired is the month and year that the asset is taken out of service.
- Retirement dates based on depreciation study approved in the recent rate case.
- Solar includes 0.5% per year degradation.
- Renewables capacity listed excludes REC-Only contracts.

CAPITAL AND ENERGY COSTS OF PLANNED ADDITIONS
18 C.F.R. § 292.302(b)(3)

The estimated capacity costs at completion of the planned capacity additions and planned capacity firm purchases, on the basis of dollars per kilowatt, and the associated energy costs of each unit, expressed in cents per kilowatt-hour. These costs shall be expressed in terms of individual generating units and of individual planned firm purchases.

RESPONSE:

ESTIMATED CAPITAL AND ENERGY COSTS FOR PLANNED CAPACITY ADDITIONS

| | |
|------------|---|
| 2019 (Dec) | 22 MW Combined Heat and Power [REDACTED] |
| 2019 (Dec) | 4 MW Energy Storage [REDACTED] |
| 2020 (Dec) | 22 MW Combined Heat and Power [REDACTED] |
| 2020 (Dec) | 16 MW Energy Storage [REDACTED] |
| 2021 (Dec) | 20 MW Energy Storage [REDACTED] |
| 2022 (Dec) | 20 MW Energy Storage [REDACTED] |
| 2023 (Dec) | 20 MW Energy Storage [REDACTED] |
| 2024 (Dec) | 402 MW Lincoln Project [REDACTED] |
| 2024 (Dec) | 20 MW Energy Storage [REDACTED] |
| 2025 (Dec) | 20 MW Energy Storage [REDACTED] |

| | |
|------------|---------------------------|
| 2027 (Dec) | 460 MW Combustion Turbine |
| | |

Notes:

Capacity (MW) reflects winter rating.

Capacity cost based on generic unit assumptions and expressed in overnight in-service year dollars (excluding AFUDC) unless otherwise noted.

Energy cost represented in the first full year of operation of the asset.

Energy cost includes fuel and variable O&M.

CHP energy cost includes revenues from steam sales.

Energy Storage capital cost based on 5 MW Li-ion battery for 2019 and 20 MW Li-ion battery for all other years.

Energy Storage energy costs have no generation cost because the fuel is burned by other units to charge the battery. Additionally, no variable O&M cost is modeled, so the generation cost shows up as zero cost.

ESTIMATED CAPACITY AND ENERGY COSTS FOR PLANNED FIRM PURCHASES

The undesignated renewable resource additions listed under the 292.302(b)(2) requirement involve additions of large numbers of small power producers that will be subject to capacity and energy rates that will be negotiated or in place at the time the agreements are signed.

ESTIMATED AVOIDED ENERGY COSTS
18 C.F.R. § 292.302(b)(1)

The estimated avoided cost on the electric utility's system, solely with respect to the energy component, for various levels of purchases from qualifying facilities. Such levels of purchases shall be stated in blocks of not more than 100 megawatts for systems with peak demand of 1,000 megawatts or more, and in blocks equivalent to not more than 10 percent of the system peak demand for systems of less than 1,000 megawatts. The avoided costs shall be stated on a cents per kilowatt-hour basis, during daily and seasonal peak and off-peak periods, by year, for the current calendar year and each of the next five years.

RESPONSE:

NON-SUMMER AVERAGE AVOIDED ENERGY COST BY PERIOD (¢/kWh)

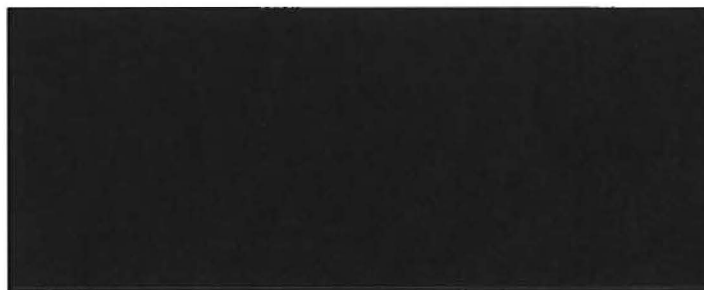
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SUMMER AVERAGE AVOIDED ENERGY COST BY PERIOD (¢/kWh)

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Notes:

Energy costs are expressed in nominal dollars.

HOUR DEFINITIONS

| Season | Period | Days | Months | Hours |
|------------|-----------------|------------------------|--------------------------|--|
| Non-Summer | On-Peak Morning | Mon – Fri ¹ | Oct – Apr | 5:00 am – 9:00 am |
| Non-Summer | On-Peak Evening | Mon – Fri ¹ | Oct – Apr | 5:00 pm – 12:00 am |
| Non-Summer | Off-Peak | Mon – Fri Sat – Sun | Oct – Apr Oct – Apr | Remaining Hours + Holidays All Hours ² |
| Summer | On-Peak | Mon – Fri ¹ | May - Sept | 1:00 pm – 12:00 am |
| Summer | Off-Peak | Mon – Fri Sat – Sun | May – Sept May – Sept | Remaining Hours + Holidays All Hours ² |

Notes:

- 1) Excludes holidays considered as off-peak (New Year's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and the day after, and Christmas Day).
- 2) When one of the above holidays falls on a Saturday, the Friday before will be considered off-peak; when the holiday falls on a Sunday, the following Monday will be considered off-peak.

FUTURE RESOURCE ADDITIONS
18 C.F.R. § 292.302(b)(2)

The electric utility's plan for the addition of capacity by amount and type, for purchases of firm energy and capacity, and for capacity retirements for each year during the succeeding 10 years.

RESPONSE:

PROPOSED RESOURCE CAPACITY ADDITIONS

| Year | Winter Capacity (MW) | Description (Date Installed) |
|-------------|-----------------------------|--|
| 2019 | 12 | Energy Storage (December 2018) |
| 2020 | 560 12 | Asheville Combined Cycle (November 2019) Energy Storage (December 2019) |
| 2021 | 22 14 | Combined Heat and Power (December 2020) Energy Storage (December 2020) |
| 2022 | 14 | Energy Storage (December 2021) |
| 2023 | 16 | Energy Storage (December 2022) |
| 2024 | 16 | Energy Storage (December 2023) |
| 2025 | 1,338 16 | Combined Cycle (December 2024) Energy Storage (December 2024) |
| 2026 | | |
| 2027 | 1,338 | Combined Cycle (December 2026) |
| 2028 | | |

PROPOSED RESOURCE CAPACITY RETIREMENTS

| Year | Winter Capacity (MW) | Description (Date Retired) |
|-------------|-----------------------------|---|
| 2020 | 384 | Asheville 1, 2 (November 2019) |
| 2021 | 514 | Darlington CTs 1-4, 6-8, 10 (December 2020) |
| 2025 | 68 | Blewett CTs 1-4 (December 2024) |
| 2025 | 164 | Weatherspoon CTs 1-4 (December 2024) |

PROPOSED RENEWABLES PURCHASE CAPACITY ADDITIONS

| DEP Base Renewables – Compliance + Non-Compliance Nameplate MW | | | |
|---|--------------|----------------------|--------------|
| | Solar | Biomass/Hydro | Total |
| 2019 | 2,607 | 266 | 2,873 |
| 2020 | 2,744 | 266 | 3,010 |
| 2021 | 3,051 | 120 | 3,171 |
| 2022 | 3,476 | 115 | 3,591 |
| 2023 | 3,570 | 103 | 3,673 |
| 2024 | 3,760 | 102 | 3,862 |
| 2025 | 3,940 | 73 | 4,013 |
| 2026 | 3,919 | 73 | 3,992 |
| 2027 | 3,899 | 67 | 3,966 |
| 2028 | 3,879 | 14 | 3,893 |

PROPOSED SHORT-TERM MARKET PURCHASES

| Year | Winter Capacity (MW) | Description |
|-------------|---------------------------------|----------------------------|
| 2020 | 30 | Short-term market purchase |
| 2021 | 590 | Short-term market purchase |
| 2022 | 590 | Short-term market purchase |
| 2023 | 430 | Short-term market purchase |
| 2024 | 430 | Short-term market purchase |

Notes:

- Data Source: 2018 Base Case used for Avoided Cost standard offer rates filed in SC Docket 1995-1192-E.
- The year is the year in which the capacity impacts the winter peak.
- All retirements are for planning purposes only.
- The date retired is the month and year that the asset is taken out of service.
- Retirement dates based on depreciation study approved in the recent rate case.
- Solar includes 0.5% per year degradation.
- Renewables capacity listed excludes REC-Only contracts.
- Short-Term Market Purchases shown in the 2018 IRP.

CAPITAL AND ENERGY COSTS OF PLANNED ADDITIONS
18 C.F.R. § 292.302(b)(3)

The estimated capacity costs at completion of the planned capacity additions and planned capacity firm purchases, on the basis of dollars per kilowatt, and the associated energy costs of each unit, expressed in cents per kilowatt-hour. These costs shall be expressed in terms of individual generating units and of individual planned firm purchases.

RESPONSE:

ESTIMATED CAPITAL AND ENERGY COSTS FOR PLANNED CAPACITY ADDITIONS

| | |
|-------------------|---|
| 2018 (Dec) | 12 MW Energy Storage [REDACTED] |
| 2019 (Nov) | 560 MW Asheville CC [REDACTED] |
| 2019 (Dec) | 12 MW Energy Storage [REDACTED] |
| 2020 (Dec) | 22 MW Combined Heat and Power [REDACTED] |
| 2020 (Dec) | 14 MW Energy Storage [REDACTED] |
| 2021 (Jan) | 600 MW Short-term Market Purchase [REDACTED] |
| 2021 (Dec) | 14 MW Energy Storage [REDACTED] |
| 2022 (Jan) | 600 MW Short-term Market Purchase [REDACTED] |
| 2022 (Dec) | 16 MW Energy Storage [REDACTED] |
| 2023 (Jan) | 430 MW Short-term Market Purchase [REDACTED] |
| 2023 (Dec) | 16 MW Energy Storage [REDACTED] |

| | |
|-------------------|---|
| 2024 (Jan) | 430 MW Short-term Market Purchase [REDACTED] |
| 2024 (Dec) | 1,338 MW Combined Cycle [REDACTED] |
| 2024 (Dec) | 16 MW Energy Storage [REDACTED] |
| 2026 (Dec) | 1,338 MW Combined Cycle [REDACTED] |

Notes:

- Capacity (MW) reflects winter rating.
- Capacity cost based on generic unit assumptions and expressed in overnight in-service year dollars (excluding AFUDC) unless otherwise noted.
- Energy cost represented in the first full year of operation of the asset.
- Energy cost includes fuel and variable O&M.
- CHP energy cost includes revenues from steam sales.
- Energy Storage cost based on 20 MW Li-ion Battery.
- Energy Storage energy costs have no generation cost because the fuel is burned by other units to charge the battery. Additionally, no variable O&M cost is modeled, so the generation cost shows up as zero cost.
- Asheville CC capital cost estimates are based on CPCN filing in NCUC Docket No. E-2, Sub 1089 (expressed in nominal dollars and exclude AFUDC).
- Short-term market purchases are placeholders. A Request for Proposals to meet this need was issued on August 27, 2018 and closed on September 24, 2018. Analysis is underway with expectations of contract completion by the first quarter of 2019.

ESTIMATED CAPACITY AND ENERGY COSTS FOR PLANNED FIRM PURCHASES

The undesignated renewable resource additions listed under the 292.302(b)(2) requirement involve additions of large numbers of small power producers that will be subject to capacity and energy rates that will be negotiated or in place at the time the agreements are signed.